FILE 'HOME' ENTERED AT 13:13:35 ON 20 SEP 2001

=> file agricola biosis caplus caba

=> s androctonine

L1 1 ANDROCTONINE

=> d ti

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
TI Antifungal and antibacterial peptide

=> d bib abs

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
AN 1997:568164 CAPLUS
DN 127:232216
TI Antifungal and antibacterial peptide
IN Bulet, Philippe; Hetru, Charles; Hoffmann, Jules; Sabatier, Laurence
PA Rhone-Poulenc Agrochimie, Fr.; Bulet, Philippe; Hetru, Charles; Hoffmann, Jules; Sabatier, Laurence
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9730082	A2	19970821	WO 1997-FR295	19970217
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BE, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	FR 2745004	A1	19970822	FR 1996-2168	19960216
	FR 2745004	B1	19980327		
	CA 2245518	AA	19970821	CA 1997-2245518	19970217
	AU 9718843	A1	19970902	AU 1997-18843	19970217
	AU 722891	B2	20000810		
	EP 882063	A2	19981209	EP 1997-905217	19970217
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
	CN 1216047	A	19990505	CN 1997-193823	19970217
	BR 9707292	A	19990720	BR 1997-7292	19970217
	JP 2000505440	T2	20000509	JP 1997-529059	19970217
	US 6127336	A	20001003	US 1998-125234	19981116
PRAI	FR 1996-2168	A	19960216		
	WO 1997-FR295	W	19970217		

AB The invention discloses a bicyclic antibacterial and antifungal peptide, **androctonine**, from hemolymph of the scorpion Androctonus australis.

=> s Androctonus

L2 1405 ANDROCTONUS

=> s l2 and (protein or peptide)

L4 401 L2 AND (PROTEIN OR PEPTIDE)

=> s l4 and (antifungal or antibacterial)

L5 7 L4 AND (ANTIFUNGAL OR ANTIBACTERIAL)

=> d ti 1-7

L5 ANSWER 1 OF 7 AGRICOLA
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.

L5 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.

L5 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Androctonin, a hydrophilic disulfide-bridged non-hemolytic anti-microbial

peptide: a plausible mode of action

L5 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI **Antifungal** and **antibacterial peptide**

L5 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2001 ACS
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood

L5 ANSWER 6 OF 7 CABA COPYRIGHT 2001 CABI
TI Androctonin, a hydrophilic disulphide-bridged non-haemolytic anti-microbial **peptide**: a plausible mode of action.

L5 ANSWER 7 OF 7 CABA COPYRIGHT 2001 CABI
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.

=> d bib abs 2 3

L5 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS
AN 1997:13199 BIOSIS
DN PREV199799312402
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.
AU Ehret-Sabatier, Laurence; Loew, Damarys; Goyffon, Max; Fehlbaum, Pascale; Hoffmann, Jules A.; Van Dorsselaer, Alain; Bulet, Philippe (1)
CS (1) Inst. Biol. Moleculaire Cellulaire, UPR 9022, CNRS, Response Immunitaire Developpement Chez les Insects, 15 rue Rene Descartes, 67084 Strasbourg Cedex France
SO Journal of Biological Chemistry, (1996) Vol. 271, No. 47, pp. 29537-29544. ISSN: 0021-9258.
DT Article
LA English
AB We have isolated, from the hemolymph of unchallenged scorpions of the species **Androctonus** australis, three distinct antimicrobial peptides, which we have fully characterized by Edman degradation, electrospray ionization mass spectrometry, and matrix-assisted laser desorption/ionization mass spectrometry. Two are novel molecules: (i) androctonin, a 25-residue **peptide** with two disulfide bridges, active against both bacteria (Gram-positive and Gram-negative) and fungi and showing marked sequence homology to tachyplesins and polyphemusins from horseshoe crabs; and (ii) buthinin, a 34-residue **antibacterial** (Gram-positive and Gram-negative) **peptide** with three disulfide bridges. The third **peptide** contains 37 residues and three disulfide bridges and clearly belongs to the family of anti-Gram-positive insect defensins. We have synthesized androctonin and explored its activity spectrum and mode of action.

L5 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2001 ACS
AN 2000:257653 CAPLUS
DN 133:14511
TI Androctonin, a hydrophilic disulfide-bridged non-hemolytic anti-microbial **peptide**: a plausible mode of action
AU Hetru, Charles; Letellier, Lucienne; Oren, Ziv; Hoffmann, Jules A.; Shai, Yechiel
CS UPR 9022, CNRS, "Reponse Immunitaire et Developpement chez les Insectes", UPR 9022, CNRS, "Reponse Immunitaire et Developpement chez les Insectes", Institut de Biologie Moleculaire et Cellulaire, Strasbourg, 67084, Fr.
SO Biochem. J. (2000), 345(3), 653-664
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press Ltd.
DT Journal
LA English
AB Androctonin is a 25-residue non-hemolytic antimicrobial **peptide** isolated from the scorpion **Androctonus** australis and contains two disulfide bridges. Androctonin is different from known native antimicrobial peptides, being a relatively hydrophilic and non-amphipathic mol. This raises the possibility that the target of androctonin might not be the bacterial membrane, shown to be a target for most amphipathic lytic peptides. To shed light on its mode of action on bacteria and its non-hemolytic activity, the authors synthesized androctonin, its fluorescent derivs. and its all-D-amino acid enantiomer. The enantiomer preserved high activity, suggesting a lipid-**peptide** interaction between androctonin and bacterial membranes. In Gram-pos. and (at higher concns.) Gram-neg. bacteria, androctonin induced an immediate perturbation of the permeability properties of the cytoplasmic membrane of the bacterial energetic state, concomitant with perturbation of the morphol. of the cell envelope as revealed by electron microscopy. Androctonin binds only to neg. charged lipid vesicles and induces the leakage of markers at high concns. and with a slow kinetics, in contrast with

amphipathic .alpha.-helical anti-microbial peptides that bind and permeate neg. charged vesicles, and to a smaller extent also zwitterionic ones. This might explain the selective lytic activity of androctonin towards bacteria but not red blood cells. Polarized attenuated total reflection-Fourier transform IR spectroscopy revealed that androctonin adopts a .beta.-sheet structure in membranes and did not affect the lipid acyl chain order, which supports a detergent-like effect. The small size of androctonin, its hydrophilic character and its physicochem. properties are favorable features for its potential application as a replacement for com. available antibiotics to which bacteria have developed resistance.

RE.CNT 58

RE

(1) Allen, T; Biochim Biophys Acta 1980, V597, P418 CAPLUS

(2) Alvarez-Bravo, J; J Biochem 1995, V117, P1312 CAPLUS

(3) Barsukov, L; Eur J Biochem 1978, V90, P331 CAPLUS

(4) Bechinger, B; J Membr Biol 1997, V156, P197 CAPLUS

(5) Bessalle, R; FEBS Lett 1990, V274, P151 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> logoff hold

FILE 'HOME' ENTERED AT 10:12:06 ON 01 APR 2002

=> file agricola biosci caplus caba

=> s androctonine

=> s androctonin

L2 18 ANDROCTONIN

=> duplicate remove l2

L3 8 DUPLICATE REMOVE L2 (10 DUPLICATES REMOVED)

=> d ti 1-8

L3 ANSWER 1 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI The solution structure of gomesin, an antimicrobial cysteine-rich peptide from the spider.

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS
TI Role of disulfide bridges in the hairpin fold of **androctonin**. Structure-activity relationships.

L3 ANSWER 3 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Isolation and characterization of Gomesin, an 18-residue cysteine-rich defense peptide from the spider Acanthoscurria gomesiana hemocytes with sequence similarities to horseshoe crab antimicrobial peptides of the tachyplesin family.

L3 ANSWER 4 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI **Androctonin,** a hydrophilic disulphide-bridged non-haemolytic anti-microbial peptide: A plausible mode of action.

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS
TI **Androctonin**-encoding nucleic acids and fungi-resistant transgenic plants

L3 ANSWER 6 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
TI **Androctonin,** a novel antimicrobial peptide from scorpion Androctonus australis: Solution structure and molecular dynamics simulations in the presence of a lipid monolayer.

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS
TI Antifungal and antibacterial peptide

L3 ANSWER 8 OF 8 AGRICOLA DUPLICATE 5
TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.

=> d bib abs 8 5 3

L3 ANSWER 8 OF 8 AGRICOLA DUPLICATE 5
AN 97:78218 AGRICOLA
DN INDZ0601630

TI Characterization of novel cysteine-rich antimicrobial peptides from scorpion blood.
AU Ehret-Sabatier, L.; Loew, D.; Goyffon, M.; Fehlbaum, P.; Hoffmann, J.A.; Dorsselaer, A. van.; Bulet, P.
CS CNRS, Strasbourg, France.
AV DNAL (381 JB24)
SO The Journal of biological chemistry, Nov 22, 1996. Vol. 271, No. 47. p. 29537-29544
Publisher: Bethesda, Md. : American Society for Biochemistry and Molecular Biology.
CODEN: JBCHA3; ISSN: 0021-9258
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB We have isolated, from the hemolymph of unchallenged scorpions of the species Androctonus australis, three distinct antimicrobial peptides, which we have fully characterized by Edman degradation, electrospray ionization mass spectrometry, and matrix-assisted laser desorption/ionization mass spectrometry. Two are novel molecules: (i) **androctonin**, a 25-residue peptide with two disulfide bridges, active against both bacteria (Gram-positive and Gram-negative) and fungi and showing marked sequence homology to tachyplesins and polyphemusins from horseshoe crabs; and (ii) buthinin, a 34-residue antibacterial (Gram-positive and Gram-negative) peptide with three disulfide bridges. The third peptide contains 37 residues and three disulfide bridges and clearly belongs to the family of anti-Gram-positive insect defensins. We have synthesized **androctonin** and explored its activity spectrum and mode of action.

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 1999:139979 CAPLUS
DN 130:192752
TI **Androctonin**-encoding nucleic acids and fungi-resistant transgenic plants
IN Freyssinet, Georges; Derose, Richard; Hoffmann, Jules
PA Rhone-Poulenc Agro, Fr.
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9909189	A1	19990225	WO 1998-FR1814	19980818
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2767537	A1	19990226	FR 1997-10632	19970820
	FR 2767537	B1	20010713		
	ZA 9807450	A	19990222	ZA 1998-7450	19980818
	CA 2301978	AA	19990225	CA 1998-2301978	19980818
	AU 9890766	A1	19990308	AU 1998-90766	19980818
	EP 1007711	A1	20000614	EP 1998-942749	19980818
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
	JP 2001514898	T2	20010918	JP 2000-509852	19980818
PRAI	FR 1997-10632	A	19970820		
	WO 1998-FR1814	W	19980818		

AB The invention concerns a DNA sequence coding for **androctonin**, a vector contg. same for transforming a host organism and the transformation method. More particularly the invention concerns the transformation of plant cells and plants, the **androctonin** produced by the transformed plants providing them with resistance to diseases, in particular those of fungal origin. Thus, plasmid pRPA-RD-236, encoding the tobacco PR-1.alpha. signal peptide fused to **androctonin**, was prepd. Agrobacterium tumefaciens contg. this plasmid was used to create transgenic tobacco plants expressing **androctonin**. These plants displayed resistance to fungal infection.
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2001:43640 BIOSIS
DN PREV200100043640
TI Isolation and characterization of Gomesin, an 18-residue cysteine-rich defense peptide from the spider Acanthoscurria gomesiana hemocytes with sequence similarities to horseshoe crab antimicrobial peptides of the

tachyplesin family.
AU Silva, Pedro I., Jr.; Daffre, Sirlei (1); Bulet, Philippe
CS (1) Departamento de Parasitologia, Instituto de Ciencias Biomedicas, Universidade de Sao Paulo, Avenue Prof. Lineu Prestes, 1374, CEP 05508-900, Sao Paulo: sidaffre@icb.usp.br Brazil
SO Journal of Biological Chemistry, (October 27, 2000) Vol. 275, No. 43, pp. 33464-33470. print.
ISSN: 0021-9258.
DT Article
LA English
SL English
AB We have purified a small size antimicrobial peptide, named gomesin, from the hemocytes of the unchallenged tarantula spider Acanthoscurria gomesiana. Gomesin has a molecular mass of 2270.4 Da, with 18 amino acids, including a pyroglutamic acid as the N terminus, a C-terminal arginine alpha-amide, and four cysteine residues forming two disulfide bridges. This peptide shows marked sequence similarities to antimicrobial peptides from other arthropods such as tachyplesin and polyphemusin from horseshoe crabs and **androctonin** from scorpions. Interestingly, it also shows sequence similarities to protegrins, antimicrobial peptides from porcine leukocytes. Gomesin strongly affects bacterial growth, as well as the development of filamentous fungi and yeast. In addition, we showed that gomesin affects the viability of the parasite Leishmania amazonensis.

=> logoff hold

FILE 'HOME' ENTERED AT 08:35:42 ON 10 APR 2002

=> file agricola biosis caplus caba

=> s scorpion and plant

L1 175 SCORPION AND PLANT

=> duplicate remove l1

L2 135 DUPLICATE REMOVE L1 (40 DUPLICATES REMOVED)

=> d ti 1-10

L2 ANSWER 1 OF 135 CAPLUS COPYRIGHT 2002 ACS
TI Method for culturing antibody gene enzyme

L2 ANSWER 2 OF 135 AGRICOLA DUPLICATE 1
TI Quantification of soil-to-**plant** transport of recombinant nucleopolyhedrovirus: effects of soil type and moisture, air currents, and precipitation.

L2 ANSWER 3 OF 135 CABA COPYRIGHT 2002 CABI
TI **Scorpion** ARMS primers for SNP real-time PCR detection and quantification of Pyrenophora teres.

L2 ANSWER 4 OF 135 CABA COPYRIGHT 2002 CABI
TI [Real-time PCR applied to the diagnosis and identification of **plant** pathogens].
Identificazione dei patogeni delle piante "in tempo reale".

L2 ANSWER 5 OF 135 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Use of thiol redox proteins for reducing protein intramolecular disulfide bonds, for improving the quality of cereal products, dough and baked goods and for inactivating snake, bee and **scorpion** toxins.

L2 ANSWER 6 OF 135 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Use of thiol redox proteins for reducing protein intramolecular disulfide bonds, for improving the quality of cereal products, dough and baked goods and for inactivating snake, bee and **scorpion** toxins.

L2 ANSWER 7 OF 135 CAPLUS COPYRIGHT 2002 ACS
TI Cloning and expression of cDNA for **scorpion** toxins with K-channel blocking activity and their use for insecticide development

L2 ANSWER 8 OF 135 CAPLUS COPYRIGHT 2002 ACS
TI Cloning and expression of cDNA for **scorpion** toxins with Na+-channel agonist activity and their use for insecticide development

L2 ANSWER 9 OF 135 CAPLUS COPYRIGHT 2002 ACS
TI Pharmaceutical compositions for treatment of diseased tissues

L2 ANSWER 10 OF 135 CAPLUS COPYRIGHT 2002 ACS
TI Cloning and expression of K+-channel inhibitors-**Scorpion** toxins and its use for development of **plant** insecticides

=> s l2 and (clon? or transform? or gene)

L3 30 L2 AND (CLON? OR TRANSFORM? OR GENE)

=> d ti 1-30

L3 ANSWER 1 OF 30 AGRICOLA
TI Comparative insecticidal properties of two nucleopolyhedrovirus vectors encoding a similar toxin **gene** chimer.

L3 ANSWER 2 OF 30 AGRICOLA
TI Sodium channel modifiers from **scorpion** venom: structure-activity relationship, mode of action and application.

L3 ANSWER 3 OF 30 AGRICOLA
TI Synthesis and expression of the **gene** coding for noxiustoxin, a K+ channel-blocking peptide from the venom of the **scorpion** Centruroides noxius.

L3 ANSWER 4 OF 30 AGRICOLA
TI Construction of an improved baculovirus insecticide containing an insect-specific toxin **gene**.

L3 ANSWER 5 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI AaIT: From neurotoxin to insecticide.

L3 ANSWER 6 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Membrane potential modulators: A thread of scarlet from plants to humans.

L3 ANSWER 7 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Construction of an insecticidal baculovirus expressing insect-specific neurotoxin AaIT.

L3 ANSWER 8 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI EXPRESSION OF A **GENE** ENCODING A **SCORPION** INSECTOTOXIN PEPTIDE IN YEAST BACTERIA AND PLANTS.

L3 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Method for culturing antibody **gene** enzyme

L3 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI **Cloning** and expression of cDNA for **scorpion** toxins with K-channel blocking activity and their use for insecticide development

L3 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI **Cloning** and expression of cDNA for **scorpion** toxins with Na+-channel agonist activity and their use for insecticide development

L3 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI **Cloning** and expression of K+-channel inhibitors-**Scorpion** toxins and its use for development of **plant** insecticides

L3 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Insect-resistant transgenic poplar expressing neurotoxin AaIT **gene**

L3 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Protein and cDNA sequences encoding **scorpion** toxins, and uses thereof in controlling **plant** pests

L3 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Fusion proteins of toxins and viral coat proteins for use in the development of insect-resistant plants

L3 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Increasing digestibility of food proteins by thioredoxin reduction

L3 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Differential insecticidal properties exhibited against heliothine species by two viral vectors encoding a similar chimeric toxin **gene**

L3 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI **Cloning** and functions of vasoactive amine-binding proteins from ticks

L3 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2002 ACS

TI **Cloning** and sequencing of two depressant insect selective neurotoxin cDNAs from Buthus martensii Karsch

L3 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Impact of insect-specific AaHIT **gene** insertion on inherent bioactivity of baculovirus against tobacco budworm, Heliothis virescens, and cabbage looper, Trichoplusia ni

L3 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Use of thio redox proteins for reducing disulfide bonds to improve feed and cereal products and to inactivate snake toxins and insect and **scorpion** venoms

L3 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Occlusion-defective insect virus-based insecticides and expression systems.

L3 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI **Gene** expression cassette containing somatotropin **gene** exon 5 non-coding sequence for expression of cDNA in animal cells

L3 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Transgenic plants expressing insecticidal proteins

L3 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2002 ACS
TI Arthropod neurotoxins for insect-resistant transgenic plants

L3 ANSWER 26 OF 30 CABA COPYRIGHT 2002 CABI
TI Impact of recombinant baculovirus field applications on a nontarget heliothine parasitoid, Microplitis croceipes (Hymenoptera: Braconidae).

L3 ANSWER 27 OF 30 CABA COPYRIGHT 2002 CABI
TI [Genetically engineered food and potential health risks]. Geneticky manipulovane potraviny a ich potencialne zdravotne rizika.

L3 ANSWER 28 OF 30 CABA COPYRIGHT 2002 CABI
TI Application of insect-specific neurotoxin AaIT **gene** in baculovirus and **plant** genetic engineering.

L3 ANSWER 29 OF 30 CABA COPYRIGHT 2002 CABI
TI Genetic engineering of microbes: virus insecticides - a case study.

L3 ANSWER 30 OF 30 CABA COPYRIGHT 2002 CABI
TI Natural toxins. Characterization, pharmacology and therapeutics. Proceedings of the 9th World Congress on Animal, **Plant** and Microbial Toxins, Stillwater, Oklahoma, August 1988.

=> d bib abs 28 25 24 20 19 17 15 13 14 3 7 10 12

L3 ANSWER 28 OF 30 CABA COPYRIGHT 2002 CABI
AN 96:114883 CABA
DN 961608102
TI Application of insect-specific neurotoxin AaIT **gene** in baculovirus and **plant** genetic engineering
AU Yao Bin; Wu ChangJian; Zhao RongMing; Fan YunLiu; Yao, B.; Wu, C. J.; Zhao, R. M.; Fan, Y. L.
CS Biotechnology Research Center, Chinese Academy of Agricultural Sciences, Beijing 100081, China.
SO Rice Biotechnology Quarterly, (1996) Vol. 26, pp. 24. 4 ref.
DT Journal
LA English
AB The insect-specific neurotoxin AaIT from the venom of the **scorpion** Androctonus australis consists of 70 amino acids cross-linked by 4 disulfide bonds. An AaIT **gene** was synthesized without changing the amino acid sequence. A DNA fragment containing the synthetic AaIT coding sequence behind the synthetic secretion signal sequence gp67 was recombined into the baculovirus TnNPV (Trichoplusia ni nuclear polyhedrosis virus) and used to infect third instar T. ni larvae. The recombinant virus killed the larvae 50% faster than the wild type virus. The synthetic AaIT **gene** was also expressed and secreted in Spodoptera frugiperda cells where it enhanced the baculovirus insecticidal activity in larvae of Helicoverpa armigera, H. assulta, Pyrausta nubilalis [Ostrinia nubilalis] and Scirpophaga. An AaIT-TMV [tobacco mosaic tobamovirus] construct was **transformed** into tobacco using Agrobacterium-mediated **transformation**. Transgenic plants showed insecticidal activity when fed to second instar H. armigera larvae (up to 100% mortality after 6 days compared to 2% in the control).

L3 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 1990:606228 CAPLUS

DN 113:206228
TI Arthropod neurotoxins for insect-resistant transgenic plants
IN Zlotkin, Eliahu; Eitan, Michal; Ben-Yehuda, Oz; Fowler, Elizabeth; Belagaje, Rama M.; Roberts, Jean L.
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 55 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 374753	A2	19900627	EP 1989-123226	19891215
	EP 374753	A3	19910529		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	CA 2005658	AA	19900619	CA 1989-2005658	19891215
	AU 8946881	A1	19900621	AU 1989-46881	19891218
	AU 631827	B2	19921210		
	HU 52547	A2	19900728	HU 1989-6667	19891218
	HU 220078	B	20011028		
	ZA 8909668	A	19900829	ZA 1989-9668	19891218
	JP 02231094	A2	19900913	JP 1989-329431	19891219
PRAI	US 1988-285924	A	19881219		
	US 1988-286002	A	19881219		
	US 1988-286087	A	19881219		

AB Insecticidal neurotoxic peptides from arthropods for use in the control of crop damage are manufd. by transgenic plants or microorganisms carrying synthetic genes for the peptide. Antibodies against certain of these toxins are prepd. A synthetic **gene** for the AaIT toxin of Androctonus australis with a codon usage optimized for expression in Zea mays was prepd. by std. methods and **cloned** under the control of the CaMV 35S promoter. The introduction of this **gene** into **plant** cells and the regeneration of transgenic plants is discussed.

L3 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 1991:552496 CAPLUS
DN 115:152496
TI Transgenic plants expressing insecticidal proteins
IN Barton, Kenneth A.; Miller, Michael J.
PA Agracetus, Inc., USA
SO Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 431829	A1	19910612	EP 1990-312944	19901128
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 5177308	A	19930105	US 1989-443425	19891129
	CA 2029451	AA	19910530	CA 1990-2029451	19901107
	JP 03247220	A2	19911105	JP 1990-325150	19901127
	AU 9067063	A1	19910606	AU 1990-67063	19901128
PRAI	US 1989-443425		19891129		

AB Transgenic plants expressing .gtoreq.1 **gene** for insecticidal toxins (e.g., **scorpion** or spider toxins) are prepd. A **gene** for **scorpion** toxin Aa IT with a codon usage optimized for the host **plant** was synthesized and fused to the cauliflower mosaic virus 35S promoter and 5' untranslated region from the alfalfa mosaic virus coat protein **gene** as well as the polyadenylation region of the nopaline synthetase **gene** of the Agrobacterium tumefaciens Ti plasmid. Transgenic tobacco plants expressing this **gene** were prepd. by std. methods. The tissue of this generation of transgenic plants, as well as 2 subsequent generations, was toxic to Heliothis zea and Spodoptera exigua larvae. A 2nd generation transgenic **plant** was crossed with another producing a Bacillus thuringiensis toxin. A possible additive effect of these two toxins when H. zea and S. exigua larvae ingested this doubly transgenic **plant** tissue was noted.

L3 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 1996:433113 CAPLUS
DN 125:107726
TI Impact of insect-specific AaHIT **gene** insertion on inherent bioactivity of baculovirus against tobacco budworm, Heliothis virescens, and cabbage looper, Trichoplusia ni
AU Treacy, M.F.; All, J.N.
CS American Cyanamid Company, Princeton, NJ, USA
SO Proc. - Beltwide Cotton Conf. (1996), (Vol. 2), 911-917
CODEN: PCOCEN; ISSN: 1059-2644
DT Journal

LA English
AB A series of lab., greenhouse and field studies were conducted to characterize the biol. activity of a recombinant form of Autographa californica nuclear polyhedrosis virus (AcNPV). The recombinant NPV (vEGTDEL/AaIT) had a deletion in the ecdysteroid UDP-glucosyltransferase **gene** and carried a synthetic copy of a **gene** encoding expression of an insect-selective neurotoxin, AaHIT, which was isolated from the **scorpion** Androctonus australis Hector. Based on LT50 values obtained in treated artificial diet assays, vEGTDEL/AaIT controlled larvae of Heliothis virescens, Trichoplusia ni and Helicoverpa zea at rates of 96%, 51% and 2.6-fold faster than AcNPV, resp. Results from a greenhouse study conducted against H. virescens on cotton showed that hastened speed of action exhibited by the **gene**-inserted NPV does indeed lead to improved **plant** protection. For example, following six foliar applications and artificial pest infestation sessions, cotton treated with equal doses of AcNPV or vEGTDEL/AaIT averaged 46.9 and 18.9% damaged flower buds, resp. (untreated cotton had 68.9% damaged buds). When applied to field-grown cotton at equiv. rates of 2 x 1012 polyhedra/ha, vEGTDEL/AaIT controlled both H. virescens and H. zea significantly faster than a non-AaIT form of AcNPV. At three days posttreatment, vEGTDEL/AaIT and non-AaIT AcNPV caused 94.5 and 58.2% mortality in H. virescens, and 53.5 and 2.0% mortality in H. zea, resp. Surveys of cotton plots over the duration of this field study showed that weekly applications of vEGTDEL/AaIT had no adverse effects on population densities of non-target arthropods, with species representing 18 different non-lepidopteran families being found at the test site.

L3 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 1997:37637 CAPLUS
DN 126:71435
TI **Cloning** and sequencing of two depressant insect selective neurotoxin cDNAs from Buthus martensii Karsch
AU Zhu, Xinsheng; Zhang, Tingfang; Zhu, Yuxian
CS Department of Biochemistry and Molecular Biology, College of Life Sciences, Peking University, Beijing, 100871, Peop. Rep. China
SO Chin. Sci. Bull. (1996), 41(16), 1387-1391
CODEN: CSBUEF; ISSN: 1001-6538
PB Science Press
DT Journal
LA English
AB Because **scorpion** insect neurotoxin acts on the insects selectively and is harmless to mammals, it draws increasing attention in agriculture worldwide. To fully explore its usefulness, 2 depressant insect-selective neurotoxin cDNAs were isolated from Buthus martensii by PCR amplification and **cloning**. The deduced neurotoxin sequences (designated BmK IT3 and BmK IT4) were 63 residues in length and were highly homologous to other **scorpion** depressant insect toxins and identical with LQQ IT2 and Lqh IT2 between amino acid residues 32 and 58. These neurotoxin cDNAs can be used as a mol. basis for **plant transformation** and also for insect-resistance studies.

L3 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 1999:429864 CAPLUS
DN 131:69672
TI Differential insecticidal properties exhibited against heliothine species by two viral vectors encoding a similar chimeric toxin **gene**
AU Treacy, M. F.; Rensner, P. E.; All, J. N.; White, A.
CS American Cyanamid Agricultural Research Center, Princeton, NJ, USA
SO Proc. - Beltwide Cotton Conf. (1999), (Vol. 2), 1076-1083
CODEN: PCOCEN; ISSN: 1059-2644
PB National Cotton Council
DT Journal
LA English
AB Lab., greenhouse and field studies were conducted to characterize the insecticidal properties of genetically-altered forms of Autographa californica (Speyer) nucleopolyhedrovirus (AcNPV) and Helicoverpa zea (Boddie) NPV (HzNPV) against heliothine species. The altered viruses each contained a chimeric 0.8-kb fragment encoding the insect-specific, sodium channel neurotoxin from the Algerian **scorpion**, Androctonus australis Hector (AaIT, hence recombinant viruses designated Ac-AaIT and Hz-AaIT). Based on LD50 values, results from diet-overlay bioassays showed Ac-AaIT and Hz-AaIT to be equally virulent against larval tobacco budworm, Heliothis virescens (F.), but HzNPV and Hz-AaIT averaged .apprx. 730-fold greater bioactivity than Ac-AaIT against larval cotton bollworm, Helicoverpa zea (Boddie). Hz-AaIT killed larvae of both heliothine species at rates significantly faster than those imparted by HzNPV (viral LT50 values averaged 2.4 and 4.2 d, resp.). In greenhouse studies, foliar sprays of Ac-AaIT and Hz-AaIT were equally effective in controlling H. virescens on cotton, however, Hz-AaIT provided control of H. zea on cotton at a level superior to that of Ac-AaIT. Following 3 weekly sessions of foliar application and H. zea artificial infestation, cotton treated with Ac-AaIT or Hz-AaIT at 1 .times. 1012 OB/ha averaged 2.5 and 16.2

non-damaged flower buds/**plant**, resp. Addnl. greenhouse studies conducted against heliothine species on cotton showed that the quicker killing speed exhibited by Hz-AaIT led to improved **plant** protection vs. HzNPV. Results from one greenhouse and four field trials demonstrated that Hz-AaIT at 5 - 12 .times. 1011 OB/ha provided control of the heliothine complex in cotton at levels similar to that by Bacillus thuringiensis and only slightly less than that of select macrolide, pyrethroid and carbamate insecticides. Due to host range differences between the two wild-type viruses, HzNPV is the better vectoring agent (vs. AcNPV) for designing recombinant **clones** as insecticides targeted at the multi-species heliothine complex. If appropriately tailored for the pest complex, recombinant NPVs may be very effective, insect-specific approaches to managing pests in many cropping scenarios. Possible Hz-AaIT deployment strategies for control of heliothine species on conventional and transgenic cotton varieties are discussed.

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 2000:191185 CAPLUS
DN 132:233045
TI Fusion proteins of toxins and viral coat proteins for use in the development of insect-resistant plants
IN Miller, W. A.; Bonning, Bryony C.
PA Iowa State University Research Foundation, Inc., USA
SO PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000015758	A2	20000323	WO 1999-US21123	19990914
	WO 2000015758	A3	20010531		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961448	A1	20000403	AU 1999-61448	19990914
	BR 9914495	A	20010724	BR 1999-14495	19990914
	EP 1148782	A2	20011031	EP 1999-948222	19990914
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	US 1998-100132P	P	19980914		
	WO 1999-US21123	W	19990914		

AB A method of improving **plant** resistance to insects, including but not limited to thrips, leaf hoppers, and beetles, using fusion proteins of toxic proteins and viral coat proteins that can improve the transfer of toxin from the gut of an insect to the hemocoel. Chimeric genes encoding the fusion protein can be disseminated using the virus as vector. Ingestion of the fusion protein by the sucking insect transfers the fusion protein into the insect's gut from which it is transferred into the hemocoel due to the functional activity of the transport peptide where the toxin exerts its toxic effect upon the insect. In a preferred embodiment, the invention is effective in control of such sucking insects as aphids, whiteflies and the like, and other vectors that transmit viruses in a circulative manner.

L3 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 2000:304741 CAPLUS
DN 134:37666
TI Insect-resistant transgenic poplar expressing neurotoxin AaIT **gene**
AU Wu, Ning Peng; Sun, Qin; Yao, Bin; Fan, Yun-Liu; Rao, Hong-Yu; Huang, Min-Ren; Wang, Ming-Xiu
CS Biotechnology Research Center, Chinese Academy of Agricultural Sciences, Beijing, 100081, Peop. Rep. China
SO Shengwu Gongcheng Xuebao (2000), 16(2), 129-133
CODEN: SGXUED; ISSN: 1000-3061
PB Kexue Chubanshe
DT Journal
LA Chinese
AB The insect-specific **scorpion** neurotoxin AaIT **gene** was inserted into a binary vector and transferred into a hybrid poplar **clone** N-106 (P. deltoides x P. simonii) from Southern China. Sixty-two regenerated plants were obtained by the Agrobacterium tumefaciens transferring system. PCR and PCR-Southern anal. showed that AaIT **gene** was incorporated into the genome of some recovered

poplar plants. One of the **transformed** plants named A5 was resistant to first instar larvae of Lymantria dispar, in contrast to untransformed control **plant**. It caused a decrease in leaf consumption by larvae, a lower larval wt. gain and a higher larval mortality rate of Lymantria dispar. The AaIT was detected by ELISA in this **transformed** poplar **plant**.

L3 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 2000:291080 CAPLUS
DN 132:318616
TI Protein and cDNA sequences encoding **scorpion** toxins, and uses thereof in controlling **plant** pests
IN Mccutchen, Billy F.; Herrmann, Rafael
PA E.I. Du Pont De Nemours and Company, USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000024772	A2	20000504	WO 1999-US24922	19991022
WO 2000024772	A3	20010201		

W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1124954	A2	20010822	EP 1999-970999	19991022

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI US 1998-105404P	P	19981023	
WO 1999-US24922	W	19991022	

AB This invention provides protein and cDNA sequences encoding **scorpion** toxins which are sodium channel agonists, and relates to uses thereof for insect control in plants. Preferably, the **scorpion** toxin is an alpha toxin XIV, a neurotoxin I, or a depressant toxin LqhIT2. The invention also relates to the construction of a chimeric **gene** encoding all or a portion of the **scorpion** sodium channel agonist, in sense or antisense orientation, wherein expression of the chimeric **gene** results in prodn. of altered levels of the **scorpion** sodium channel agonist in a **transformed** host cell. Preferably, the toxins of the invention are expressed in plants, such as soybean, and used for controlling insect pests.

L3 ANSWER 3 OF 30 AGRICOLA
AN 1998:18744 AGRICOLA
DN IND20620117
TI Synthesis and expression of the **gene** coding for noxiustoxin, a K+ channel-blocking peptide from the venom of the **scorpion** Centruroides noxius.
AU Martinez, F.; Becerril, B.; Gurrola, G.B.; Martin, B.M.; Possani, L.D.
CS National Autonomous University of Mexico, Morelos.
SO Toxicon, Nov/Dec 1996. Vol. 34, No. 11/12. p. 1413-1419
Publisher: Oxford : Elsevier Science Ltd.
CODEN: TOXIA6; ISSN: 0041-0101
NTE Paper presented at Fifth Pan American Symposium on Animal, **Plant**, and Microbial Toxins held July 30 - August 4, 1995, Frederick, Maryland. Includes references
CY England; United Kingdom
DT Article
FS Non-U.S. Imprint other than FAO
LA English
AB A set of six synthetic overlapping oligonucleotides coding for noxiustoxin were coupled into a continuous DNA fragment by means of recursive polymerase chain reaction. The polymerase chain reaction product was digested with SalI and HindIII, ligated into the E. coli vector pCSP105 and expressed as a fusion protein. The fusion protein was purified and digested with trypsin and the hydrolysis products were separated by high-performance liquid chromatography. Approximately 1.3 mg of recombinant noxiustoxin per liter of culture was obtained. Amino acid analysis and N-terminal amino acid sequence of the recombinant noxiustoxin confirmed the nucleotide sequence of the **cloned** DNA. Binding experiments using rat brain synaptosomal membranes revealed that recombinant noxiustoxin displaced bound radioactive native NTX with a similar efficiency to cold native noxiustoxin.

L3 ANSWER 7 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:24387 BIOSIS

DN PREV199799323590
TI Construction of an insecticidal baculovirus expressing insect-specific neurotoxin AaIT.
AU Yao Bin, Pang Yi; Fan Yunliu (1); Zhao Rongmin; Yang Yingchang; Wang Tianyuan
CS (1) Biotechnol. Res. Cent., Chinese Acad. Agric. Sci., Beijing 100081 China
SO Science in China Series C Life Sciences, (1996) Vol. 39, No. 2, pp. 199-206.
ISSN: 1006-9305.
DT Article
LA English
AB Considering the factors which affect **gene** transcription, translation and the stability of mRNA, without changing the amino acid composition of the encoded polypeptide, AaIT **gene** encoding insect-specific neurotoxin was designed and synthesized according to bias in codon choice, overall G+C content and G+C content of bases at the third position in codons of polyhedrin genes of baculovirus and of **plant** genes as well. AaIT **gene** was fused behind a synthetic gp67 signal sequence and then recombined into the genome of Trichoplusia ni nuclear polyhedrosis virus (TnNPV) by transfer vector pSXIV VI+X3. The recombinant virus TnNPV-AaIT (occ+-gal-) was screened. The results of Southern blotting and SDS-PAGE demonstrated that AaIT **gene** had integrated into the genome of virus and expressed. Bioassays on 3rd-instar Trichoplusia ni larvae showed that recombinant viruses TnNPV-AaIT could shorten the time of killing insect and improve the efficiency of killing agronomically important insects.

L3 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 2000:911426 CAPLUS
DN 134:67197
TI **Cloning** and expression of cDNA for **scorpion** toxins with K-channel blocking activity and their use for insecticide development
IN Herrmann, Rafael; Lee, Jian-Ming; Wong, James F.
PA E.I. Du Pont De Nemours and Company, USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000078958	A2	20001228	WO 2000-US17049	20000621
WO 2000078958	A3	20010426		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1185654	A2	20020313	EP 2000-943006	20000621
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI US 1999-140227P	P	19990622		
WO 2000-US17049	W	20000621		

AB This invention relates to a series of **scorpion** toxins that are K+-channel agonists and their cDNA sequences and relates to their uses for **plant** insecticide development. These toxins include toxin 15-1, Bmtx 1, neurotoxin P2, leiurotoxin I, leiuropeptide I, leiuropeptide III, kaliotoxin 2 precursor and cobatoxin 1 from Hottentotta judaica. The invention also relates to constructing baculovirus expression vector for chimeric genes encoding all or a portion of these toxins to produce recombinant protein using transgenic plants or insects.

L3 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2002 ACS
AN 2000:384420 CAPLUS
DN 133:27384
TI **Cloning** and expression of K+-channel inhibitors-**Scorpion** toxins and its use for development of **plant** insecticides
IN Herman, Rafael; Wong, James F.; Lu, Albert L.; Presnail, James K.; Lee, Jian-ming
PA E.I. Du Pont De Nemours and Company, USA
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 2000032777 A2 20000608 WO 1999-US28351 19991201
W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1135487 A2 20010926 EP 1999-961883 19991201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRAI US 1998-110590P P 19981202
WO 1999-US28351 W 19991201
AB This invention relates to a series of **scorpion** toxins that are K+-channel blockers and their cDNA sequences and relates to their uses as **plant** insecticides. These toxins include K+-channel blocking toxin 15-1, agitoxin 1, leiuropeptide II, kaliotoxin 2 precursor I, tityustoxin k .alpha., two charybdotoxin, and charybdotoxin 2. The invention also relates to the construction of chimeric genes encoding all or a portion of these K+-channel blockers toxin, in sense or antisense orientation, for expression of the chimeric genes in transgenic plants which result in prodn. of altered levels of the K+-channel blockers to prevent insect infection.

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.20	-6.20

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PASSWORD:
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AT 08:45:35 ON 10 APR 2002
FILE 'AGRICOLA' ENTERED AT 08:45:35 ON 10 APR 2002
FILE 'BIOSIS' ENTERED AT 08:45:35 ON 10 APR 2002
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FILE 'CAPLUS' ENTERED AT 08:45:35 ON 10 APR 2002
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)
FILE 'CABA' ENTERED AT 08:45:35 ON 10 APR 2002
COPYRIGHT (C) 2002 CAB INTERNATIONAL (CABI)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	46.13	46.34
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.20	-6.20

=> d bib abs 8

L3 ANSWER 8 OF 30 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1992:432794 BIOSIS
DN BA94:84919
TI EXPRESSION OF A **GENE** ENCODING A **SCORPION** INSECTOTOXIN PEPTIDE IN YEAST BACTERIA AND PLANTS.
AU PANG S-Z; OBERHAUS S M; RASMUSSEN J L; KNIPPLE D C; BLOOMQUIST J R; DEAN D H; BOWMAN K D; SANFORD J C
CS DEP. HORTICULTURAL SCI., CORNELL UNIV., N.Y. STATE AGRICULTURAL EXPERIMENTAL STATION, GENEVA, N.Y. 14456.
SO GENE (AMST), (1992) 116 (2), 165-172.
CODEN: GENED6. ISSN: 0378-1119.
FS BA; OLD
LA English
AB The nucleotide sequence encoding the **scorpion** [Buthus eupeus] insectotoxin I5A was chemically synthesized and expressed in yeast [Saccharomyces cerevisiae], bacteria [Escherichia coli] and tobacco

[Nicotiana tabacum]. The I5A peptides produced in these organisms were purified using an immunoaffinity chromatography procedure. I5A produced using the bacterial secretion system was efficiently secreted and released into the culture medium. In contrast, only a trace amount of I5A was detected in bacterial cytosols when expressed from a direct expression vector, suggesting that I5A was unstable in bacterial cells. I5A secreted from yeast using an .alpha.-factor signal sequence was shown to have an N-terminal (Glu-Ala)2 extension, indicating incomplete processing of the secreted peptide by dipeptidyl aminopeptidase A. In tobacco, a nonsecreted form of the protein was produced. No measurable insect toxicity was observed when insect larvae were assayed, regardless of whether I5A was produced in yeast, bacteria or tobacco. The lack of toxicity is almost certainly the result of improper folding due to incorrect disulfide bond formation. The inability to produce a biologically active peptide must be overcome before **scorpion** toxins might be used for the genetic engineering of plants for insect resistance. The yeast and bacterial expression systems described here may be useful for further studies on the problem of expressing a biologically active peptide.

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STN INTERNATIONAL SESSION SUSPENDED AT 08:46:05 ON 10 APR 2002